

February 1999

Vol. No. 2



Lake Mead Water Quality Forum



LMWQF ACCOMPLISHMENTS 1998

Year End Status Report:

The Lake Mead Water Quality Forum was created to support the protection of human health and the environment, and to preserve and improve the water quality of the Las Vegas Wash, Bay and Lake Mead.

The Forum identified and prioritized critical water quality issues facing the Las Vegas Wash and Lake Mead.

Listed below is a summary of Forum accomplishments.

● COMMUNICATION/COORDINATION



Lake Mead Interagency Workgroup

The Forum, in association with its member agencies, created the Lake Mead Interagency Workgroup to evaluate the coordination of Lake Mead sampling efforts. The goal is to maximize data quality through understanding and resolving the differences in each agency's monitoring and analytical procedures and to coordinate monitoring activities whenever possible. A manual that outlines each agency's programs has been developed.

A Website for public access titled LVWash.Org is on line. The Website will be used to inform the public of the Lake Mead Interagency Workgroup's activities and progress and to allow for public feedback.

Technical Subcommittee for Water Quality Biological Analysis

The purpose of the Technical Subcommittee for Water Quality Biological Analysis was to design a sampling program capable of answering the question, "Is the swimmability or full body contact use of the Las Vegas Bay, from the western boundary of the Las Vegas Marina Campground to the confluence of the Las Vegas Wash impaired during or after rainfall events, and if so, for what period of time?"

The sampling program consisted of seven sample locations in Las Vegas Wash, Las Vegas Bay and Lake Mead and protocol to collect samples at the water surface, at the point of peak conductivity (typically 30-40 feet deep) and at the bottom.

In the summer of 1998, samples were collected for 8 days during and after a storm event (July 20-28, 1998). The results showed that during wet weather flows, bacteria levels increased as a result of stormwater runoff.

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Bacteria levels decreased with time after the storm event and as the distance from the source of the flood water increased. The maximum values were seen in the zone of highest conductivity.

Bacteria levels for body contact were exceeded at depth. However, bacteria levels at the surface never exceeded the standard. During dry weather days the standards are being met both at depth and at the surface.

This study was a great effort by the Technical Subcommittee and all the agencies and individuals that participated in the sampling. A special thanks to all who participated.

● EROSION**Technical Subcommittee for Wash/Lake Sedimentation**

The Forum established the Technical Subcommittee for Wash/Lake Sedimentation to evaluate the current state of erosion in Las Vegas Wash. Field observations indicated an increase in bank and bed erosion since the flood of August 1997. A survey conducted in March, April and May of 1998, found elevated levels of total suspended solids (TSS) at the two downstream sampling sites, LVW3 and LVW5. TSS concentrations at the upstream sampling site near the confluence of Flamingo Wash were less than one-tenth the concentrations observed at the downstream sites. Daily composite samples from sampling station LVW5 just below Lake Las Vegas had TSS concentrations of 1500 to 3000 mg/l. Roughly 600 tons/day of sand and gravel must be removed from the Lake of Las Vegas sedimentation basin to maintain its effectiveness. The total bed load for the Wash is estimated at 1400 to 1600 tons per day. The composition of the solids is approximately 90 percent inorganic material and 10 percent organic material, indicating stream bed erosion as being the significant source of TSS.

During a follow-up survey, daily grab and daily composite sampling methods were conducted concurrently at the upstream site at Flamingo Wash, and the downstream site at LVW5. The data indicated that as a percentage of 24 hour sediment loading, daily grab samples are closely representative of the higher TSS loadings occurring at the downstream site; but at the upstream site where TSS concentrations were typically less than 30 mg/l, the daily grab samples tended to underestimate the daily TSS loads. To determine whether daily grab samples are significantly representative of 24-hour conditions, further study with appropriate scientific design is needed. Diurnal fluctuations of TSS concentrations at LVW5 were observed during the follow-up study, and are related to the diurnal variation in flow rate from the municipal treatment plants.

● FISH TISSUES

In 1997, the Forum and member agencies (National Park Service, Nevada Division of Wildlife and EPA) assisted in the collection and analysis of sport fish from the Las Vegas Bay to evaluate potential human health effects related to fish consumption. An Analysis Team was established to review the fish tissue data and develop recommendations for an analysis/consumption advisory. The data review indicated that a consumption advisory is not necessary for the Las Vegas Bay.

A letter regarding the study and interpretation was sent to the National Park Service, Concessionaires, Clark County Health, Nevada State Health and other agencies to provide necessary information to Lake Mead users and the public on fish consumption.

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A study conducted by Dr. Shawn Gerstenburger will evaluate the fish consumption habits of Lake Mead fisherman. The information will be used when applying fish consumption guidelines to fish tissue data. This study is ongoing into 1999.

A study conducted by Dr. Jim Pollard will continue to evaluate issues raised by the USGS studies indicating the presence of synthetic organic compounds in Las Vegas Wash and Bay, and the effects of those compounds on game fish. The study will continue into 1999. The USGS and Michigan State are also working on endocrine disruption investigations and have expressed interest in potential collaboration.

**● STRUCTURES****Pabco Road Erosion Control Structure**

The Corps of Engineers has issued the 404 permit for the erosion control structure. The final redesign is underway and the project is expected to go out for bid in February, 1999.

Temporary Grade Control Structure

SNWA approved a cooperative agreement with CCPR to repair the temporary grade control structure. SNWA will take the lead and be responsible for the design and the actual repair. Harding Lawson is working with SNWA on the design of the structure. The goal is to get the temporary grade control structure and the Pabco Road Erosion Control Structure under construction and completed before the spring nesting season.

Wetlands Park

In coordination with CCPR, CCCP, BOR, USFWS and Corps of Engineers, planning for the Wetlands Park has made great headway. The EIS record of decision received final approval from the BOR and will be published in the federal register. Progress is being made on the land acquisition with approximately \$2,700,000 expended to date. When fully acquired, CCPR will have 2,400 contiguous acres for the Wetlands Park. CCPR has entered into an agreement with Ducks Unlimited for work in the portion above Pabco Road. The protocol has been met on the Yuma Clapper Rail and the Southwestern Willow Flycatcher.

The temporary Visitors' Center was opened in September, 1998.

● OTHER ISSUES**Perchlorate**

A 3-phased approach to evaluate and remediate perchlorate contamination of ground water and the Las Vegas Wash was initiated:

In Phase 1, the sources were identified. In Phase 2, hydrologic investigations were conducted to determine the flow paths from source areas to the Wash. American Pacific Corp. began an additional drilling program to further define the subsurface hydrogeology and better delineate the perchlorate flow paths and vertical distribution.

In Phase 3, which is ongoing, remedial actions are being implemented to treat contaminated ground water and capture perchlorate before it enters the Wash. In December of 1998, Kerr McGee completed construction of an 11 acre evaporation pond to contain perchlorate contaminated groundwater from the chromium remediation facility.

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Also Kerr McGee is evaluating how to reduce perchlorate and nitrate using biochemical reduction technology.

Perchlorate toxicological studies were completed by a number of parties. The National Center for Environmental Assessment (NCEA) has issued a preliminary revised oral reference dose for perchlorate of 0.0009 milligrams per day (32 ppb).

The peer review committee may revise this number depending on public comments and peer review findings. A final decision is expected after February, 1999.

Las Vegas Wash Coordination Committee and the Citizens Advisory Committee

The Las Vegas Coordination Committee was developed in October, 1998, composed of national, state and local organizations that have a role in funding, or other expertise related to the Wash. Framework for the Comprehensive Management Plan was submitted to the Forum.

On June 18, 1998 the SNWA Citizen's Advisory Committee developed recommendations on water quality issues for the Needs Assessment. Those recommendations were adopted and sent to the Strategic Planning Authority for consideration.

EMPACT Proposals

This is an EPA program providing environmental and health data. In the Las Vegas area, nineteen proposals were submitted. Two cooperative agreements were awarded, one to the City of Las Vegas and one to Clark County Comprehensive Planning. An inter-agency agreement was awarded to the National Weather Service office in Las Vegas.

● **EDUCATION**

A major function of the Forum is to provide general information and education to Forum members and the public on a wide variety of water quality related issues. During the last year the following presentations were made:

- A. Dr. David James, Bacteriological Study of Lake Mead;
- B. Ed Wojick, CCHD, Solid waste presentation;
- C. Jim Smitherman, Federal Clean Water Action Plan
- D. Doug Zimmerman, NDEP, Overview of the B M I facility evaluation/remediation/ project
- E. Pete Tuttle, USFWS, Lake Mohave "Screening for Environmental at Endangered Species Recovery Sites in the Lower Colorado River
- F. Michele Fellows, SNWA, Lake Mead Interagency Workgroup
- G. Wendell McCurry, NDEP, Proposed regulations for rolling stock/temporary permits
- H. Ken Covey, Synthetic Organic Compounds, (SOC) monitoring
- I. Natalie Quets, WEF research activities/opportunities
- J. Dr. LaBounty, historical limnology and limnology of the storm event that was sampled.
- K. Tom Porta and Adele Basham, NDEP Las Vegas Wash and Lake Mead Water Quality Standards

NDEP is compiling and maintaining a listing of all recent and current studies in regard to the Forum.

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NO. PAGES (INCLUDING COVER)	5	
SUBJECT:	Lake Mead WQ Forum	
NOTES:	Catherine, Here is the Fact Sheet. I would appreciate whatever perchlorate info you can send for the 3log mtg. I am going on vacation all of next week so if you mail anything please send to my home. Address is 2929 Hot Springs Rd, Minden NV 89423.	
	Thanks	
	Stephanie	